Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A digital image processing method for automatic axial rotation correction of a sequence of in vivo images in a same set using image data, comprising the steps of:

a) selecting, as a reference image, a first arbitrary in vivo image from the sequence of in vivo images;

b) using the image data to determine ~~determining~~ a rotation angle between a second arbitrary in vivo image selected from the sequence of in vivo images and the reference image of the sequence;

c) correcting the orientation of the second arbitrary in vivo image, with respect to orientation of the reference image and corresponding to the rotation angle determined with the image data;

d) using orientation corrected images, obtained using the image data, to determine an accumulated rotation angle between other selected in vivo images in the sequence and the reference image; and

e) correcting for the other selected in vivo images that do not match the reference image's orientation using the accumulated rotation angle where there exists a rotation angle between the other selected in vivo images and the reference image.

2. (Canceled)

3. (Previously Presented) The digital image processing method for automatic axial rotation correction of in vivo images claimed in claim 1, wherein the step of correcting the orientation of the second arbitrary in vivo image, with respect to orientation of the reference image and corresponding to the

rotation angle, uses an accumulated correction angle derived from the accumulated rotation angle.

4. (Original) The digital image processing method for automatic axial rotation correction of in vivo images claimed in claim 1, wherein the rotation angle is measured with respect to an optical axis of an in vivo camera used to capture the plurality of in vivo images, and wherein the optical axis is perpendicular to an image plane and is parallel to the in vivo camera's travel trajectory derivative.

5. (Original) The digital image processing method for automatic axial rotation correction of in vivo images claimed in claim 1, wherein the rotation angle is defined in a right-hand system or a left-hand system.

6. (Original) The digital image processing method for automatic axial rotation correction of in vivo images claimed in claim 5, wherein the rotation angle is rotated counter-clock wise or clockwise relative to the reference image's orientation, such that the rotation angle is a signed value.

7. (Original) The digital image processing method for automatic axial rotation correction of in vivo images claimed in claim 1, wherein the plurality of in vivo images have a plurality of feature points, and wherein the plurality of feature points are used for finding an orientation difference between two in vivo images.

8. (Original) The digital image processing method for automatic axial rotation correction of in vivo images claimed in claim 7, wherein an origin of a two-dimensional coordinate system of the in vivo images, thus defining an image plane, is at an image's center, and further comprising the steps of:

a) collecting the plurality of feature points that reside on an axis of a first image plane;

b) finding a corresponding plurality of feature points in a second image plane;

c) determining whether a feature point that resides on the axis of the first image plane moves off the axis in the second image plane; and

d) measuring the feature point's movement off the axis in the second image plane to determine the rotation angle and its direction.

9. (Original) A computer storage medium having instructions stored therein for causing a computer to perform the method of claim 1.

10. (Canceled)

11. (Original) A computer storage medium having instructions stored therein for causing a computer to perform the method of claim 3.

12. (Original) A computer storage medium having instructions stored therein for causing a computer to perform the method of claim 4.

13. (Original) A computer storage medium having instructions stored therein for causing a computer to perform the method of claim 5.

14. (Original) A computer storage medium having instructions stored therein for causing a computer to perform the method of claim 6.

15. (Original) A computer storage medium having instructions stored therein for causing a computer to perform the method of claim 7.

16. (Original) A computer storage medium having instructions stored therein for causing a computer to perform the method of claim 8.

17. (Currently amended) A digital image processing method for automatic axial rotation correction of a sequence of in vivo images in a same set, comprising the steps of:

a) selecting, as a reference image, a first arbitrary in vivo image from the sequence of in vivo images;

b) using image data to determine~~determining~~ a rotation angle between a second arbitrary in vivo image selected from the sequence of in vivo images and the reference image where the second arbitrary image and the reference image need not have a spatially overlapping area;

c) correcting the orientation of the second arbitrary in vivo image, with respect to orientation of the reference image and corresponding to the rotation angle determined with the image data;

d) using orientation corrected images obtained with the image data to determine an accumulated rotation angle between other selected in vivo images and the reference image; and

e) correcting the orientation of other selected in vivo images that do not match the reference image's orientation using the accumulated rotation angle and where there exists a rotation angle between the other selected in vivo images and the reference image.

18. (New) A digital image processing method for automatic axial rotation correction of a sequence of in vivo images in a same set, comprising the steps of:

obtaining a rotation angle between first and second in vivo images in a sequence of in vivo images of a set with image data of the first and second in vivo images where the first and second images need not have spatial overlap;

correcting an orientation of the second in vivo image relative to the orientation of the first in vivo image using the obtained rotation angle;

obtaining an accumulated rotation angle between other selected in vivo images and the first image with image data of the other selected in vivo images and the first image; and

correcting the orientation of other selected in vivo images that do not match the first reference image's orientation using the accumulated rotation angle, thereby automatically correcting axial rotation of a sequence of in vivo images in a same set.